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Canyon Fuel Company, LLC
Dugout Canyon Mine
P.O. Box 1029
Wellington, Utah 84542

March 15, 2011

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MAR 15 2011
Div. of Oil, Gas & Mining

John Baza, Director
Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Salt Lake City, UT 84114-5801

RE: Chronology of Events, Notice of Violation #10072
Dugout Canyon Mine, Canyon Fuel Company, LLC, C/007/039, Carbon County, Utah

Dear Mr. Baza:

As discussed during our March 9, 2011 Informal Assessment Conference, I am providing additional details regarding the implementation of "best technology currently available" to assist in controlling total suspended solids (TSS). This is as required by R645-301-731.121 which is illustrated below.

> 731.121. Surface-water quality will be protected by handling earth materials, ground-water discharges and runoff in a manner that minimizes the formation of acidic or toxic drainage; prevents, to the extent possible using the best technology currently available, additional contributions of suspended solids to streamflow outside the permit area; and, otherwise prevent water pollution. ....

On October 25, 2010 the first initial outflow was observed at the 9th East seals. This area of the mine had previously been sealed due to a heating event that was first detected on April 29, 2010. The continued inflow of groundwater into this oxygen deficient sealed area ultimately resulted in an outflow that contained higher than normal values of dissolved iron. This dissolved or ferrous iron will naturally oxidize to a solid or ferric iron particle when exposed to normal atmosphere. Efficiently oxygenating the 9th East outflow and treating the resulting TSS became the mine's challenge to meet discharge parameters.

Brief description of the technology used to treat TSS follows:

- 10/25/2010 Water began discharging out of 9th East seal
- 10/28/2010 Became necessary to pump water out to Pace Canyon
- 10/29/2011 Anionic flocculent being injected into settling sump, circulated water over gravel beds for aeration, water returned to sump
- 11/4 - 9/2010 Injected water from middle of sump back into 9th East to provide additional settling time
- 11/11/2010 Installed line into 6" seal pipe to inject air into the water behind seal
- 11/14/2010 Air and cationic flocculent being injected into 9th East
- 11/17/2010 Installed 50 gpm bag/cartridge filter to determine if filtering is a possible treatment option
- 11/19/2010 Injecting cationic flocculent into one of the 8" seal drain pipes, installed trickle duster and started injecting rock dust to recycled stream, venturri added to recycled water pipeline

- 11/30/2010 Installed curtain baffle in sump to increase settling potential
- 12/12/2010 Incorporated second sump (8th East) into treatment system
- 12/13/2010 8th East Sump is receiving 200 gpm water
- 1/5/2011 Lime being injected to raise pH and increase ferric iron particle precipitation
- 2/1/2011 MSHA grants approval to shut off pumps
- 2/3/2011 Pumps shut off and removed from area of 9th East seal

With the technology implemented underground, the mine remained in compliance for TSS (UPDES limits) during the entire time water was being discharged following it's discovery on October 25, 2010.

Following the discovery of water discharging at the 9th East seal multiple consultants were contacted concerning technology, products and systems available for the treatment of iron. Many of their suggestions were incorporated into the treatment system used underground.

If you require additional explanation or information please do not hesitate to contact me at (435) 636-2872.

Sincerely,

David Spillman

cc: Erwin Sass, Dugout
Vicky Miller, Dugout
Amanda Richard, Dugout
Chris Hansen, AWBG